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EXAMINER	
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ART UNIT	PAPER NUMBER
3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/712,708	CHEN ET AL.	
	Examiner	Art Unit	
	Ljiljana (Lil) V. Ciric	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/2/2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10 and 12-25* is/are pending in the application.

4a) Of the above claim(s) *4-9 and 15-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,10,12-14 and 21-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the replies filed on December 27, 2006, April 16, 2007, July 13, 2007, and November 2, 2007.

2. Claims 1, 4 through 10, and 12 through 25 remain in this application. Of these, claims 1, 10, and 12 through 14 have all been amended, either directly or indirectly, and claims 21 through 25 are new, whereas claims 4 through 9 and 15 through 20 remain withdrawn from consideration.

Election/Restrictions

3. Claims 4 through 9 and 15 through 20 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected first species or the embodiment of Figures 2 and 3, there being no allowable generic or linking claim. Election was made **without** proper traverse in the reply filed on July 7, 2006.

Response to Arguments

4. Applicant's arguments filed on November 2, 2007 with respect to the previously rejected claims have been considered but are moot in view of the new grounds of rejection presented herein.

Drawings

5. Replacement drawings were received on December 27, 2006. These drawings are hereby approved.

Specification

6. Receipt and entry of the amended abstract is hereby acknowledged.

Claim Objections

7. Claims 21 through 23 are objected to because of the following informalities: "and wherein" should be inserted immediately preceding "the materials" [claim 21, lines 5-6] for improved grammatical

correctness and readability; "is rotatably" [claim 22, line 2; claim 23, line 2] should be replaced with "being rotatably" for improved grammatical correctness and readability. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is insufficient antecedent basis for the limitation "the materials of the heat pipe" [claim 12, line 2].

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Gray (U.S. Patent No. 3,999,400; previously of record).

Gray, particularly Figure 6, discloses the inventive heat dissipation module essentially as claimed, including, for example: a fan having blades 73 and a hollow shaft or rotor 70 (formed as a heat pipe 76). the first end of the shaft 70 penetrating the hub of the fan as shown in Figure 6, the first end of the shaft 70 also at least operably connecting to a heating element (i.e., room air and/or inherent elements giving off heat to the room air within the room; see column 8, lines 19-21); and, a heat sink or conductive disc 80 (see column 8, lines 27-40) connected to the second end of the shaft or rotor 70.

The reference thus reads on the claim.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 10, 14, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (U.S. Patent No. 3,999,400; previously of record).

Gray (especially Figure 2) discloses a heat dissipation module essentially as claimed, including, for example: a heat pipe 16 made of a non-specific metal material having a first end and an opposite second end, the first end of the heat pipe 16 being connected to a heating element (i.e., an electric motor); a stator assembly 11 rotatably connected to the heat pipe 16; a rotor 12 fixed on heat pipe 16; and a heat sink readable on auger blades 19 which extend outward from the heat pipe 16 and inherently function as a heat sink, both the stator assembly 11 and the rotor 12 disposed between the heat sink 19 and the heating element.

While Gray fails to disclose that the rotor 12 is rotatably connected to the heat pipe 16 and that the stator assembly is fixed on the heat pipe 16 as recited in claim 10, this configuration merely represents an obvious reversal of parts as disclosed by Gray and fails to impart patentability. See In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955) (Prior art disclosed a clock fixed to the stationary steering wheel column of an automobile while the gear for winding the clock moves with steering wheel; mere reversal of such movement, so theclock moves with wheel, was held to be an obvious expedient.). Thus, it would have been obvious to one skilled in the art at the time of invention to modify the heat dissipation of Gray by reversing the stator assembly 11 and the rotor 12 so that the rotor 12 is rotatably connected to the heat pipe 16 whereas the stator assembly 11 is fixed to the heat pipe 16 in order to meet specific manufacturability requirements, for example, without affecting operation of the module.

14. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (U.S. Patent No. 3,999,400; previously of record) in view of Siemens AG (CH 516 251; previously of record).

Gray (especially Figure 2) discloses a heat dissipation module essentially as claimed, including, for example: a heat pipe 16 made of a non-specific metal material having a first end and an opposite second end, the first end of the heat pipe 16 being connected to a heating element (i.e., an electric motor); a stator assembly 11 rotatably connected to the heat pipe 16; a rotor 12 fixed on heat pipe 16; and a heat sink readable on auger blades 19 which extend outward from the heat pipe 16 and inherently function as a heat sink.

While Gray discloses the heat pipe 16 as being made of a non-specific metal (see cross-hatching in Figure 2, for example), Gray fails to disclose that the materials of the heat pipe 16 are specifically selected from the group consisting of aluminum, copper, aluminum alloy, copper alloy, and compounds thereof. Nevertheless, it is known in the art of making heat pipes and taught by Siemens AG to have a heat pipe made of a highly conductive material such as aluminum or copper. Furthermore, while Gray also does not disclose the rotor 12 and the stator assembly 11 as being specifically made of aluminum, copper, aluminum alloy, copper alloy, and compounds thereof, it is notoriously well-known in the art of making motors to have rotor and stator windings made of copper or aluminum and compounds thereof. Thus, it would have been obvious to one skilled in the art at the time of invention to modify the heat dissipation module of Gray to have the heat pipe 16 made of copper or aluminum or a compound thereof as taught by Siemens AG in order to ensure high thermal conductivity into and out of the heat pipe 16 while also facilitating manufacturability thereof. It would have similarly been obvious to one skilled in the art at the time of invention to modify the heat dissipation module of Gray to have the rotor 12 and the stator assembly 11 made of copper or aluminum or compounds thereof in order to ensure both malleability (and thus facilitate manufacturability) and good electrical conductance, for example.

15. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (U.S. Patent No. 3,999,400; previously of record) in view of Siemens AG (CH 516 251; previously of record).

Gray, particularly Figure 6, discloses the inventive heat dissipation module essentially as claimed, including, for example: a fan having blades 73 and a hollow shaft or rotor 70 (formed as a heat pipe 76), the first end of the shaft 70 penetrating the hub of the fan as shown in Figure 6, the first end of the shaft 70 also at least operably connecting to a heating element (i.e., room air and/or inherent elements giving off heat to the room air within the room; see column 8, lines 19-21); and, a heat sink or conductive disc 80 (see column 8, lines 27-40) connected to the second end of the shaft or rotor 70, with the fan disposed between the heat sink 80 and the heating element.

While Gray discloses the heat pipe 16 as being made of a non-specific metal (see cross-hatching in Figure 2, for example), Gray fails to disclose that the materials of the heat pipe 16 are specifically selected from the group consisting of aluminum, copper, aluminum alloy, copper alloy, and compounds thereof. Nevertheless, it is known in the art of making heat pipes and taught by Siemens AG to have a heat pipe made of a highly conductive material such as aluminum or copper. Thus, it would have been obvious to one skilled in the art at the time of invention to modify the heat dissipation module of Gray to have the heat pipe 16 made of copper or aluminum or a compound thereof as taught by Siemens AG in order to ensure high thermal conductivity into and out of the heat pipe 16 while also facilitating manufacturability thereof.

16. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (U.S. Patent No. 3,999,400; previously of record).

Gray, particularly Figure 6, discloses the inventive heat dissipation module essentially as claimed, including, for example: a fan having blades 73 and a hollow shaft or rotor 70 (formed as a heat pipe 76), the first end of the shaft 70 penetrating the hub of the fan as shown in Figure 6, the first end of the shaft 70 also at least operably connecting to a heating element (i.e., room air and/or inherent elements giving

off heat to the room air within the room; see column 8, lines 19-21); and, a heat sink or conductive disc 80 (see column 8, lines 27-40) connected to the second end of the shaft or rotor 70. Motor 72 inherently has both a stator assembly and a rotor, but Gray fails to specifically disclose the particulars relating to the stator assembly and to the rotor of motor 72 with regard to the embodiment of Figure 6.

Nevertheless, another embodiment of Gray (see Figure 2) discloses a heat dissipation module essentially including a heat pipe 16; a stator assembly 11 rotatably connected to the heat pipe 16; a rotor 12 fixed on heat pipe 16; and a heat sink readable on auger blades/fan blades 19 which extend outward from the heat pipe 16 and inherently function as both a heat sink and a fan, both the stator assembly 11 and the rotor 12 disposed between the heat sink 19 and the heating element.

While Gray fails to disclose that the rotor 12 is rotatably connected to the heat pipe 16 and that the stator assembly is fixed on the heat pipe 16 as recited in claim 10, this configuration merely represents an obvious reversal of parts as disclosed by Gray and fails to impart patentability. See In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955) (Prior art disclosed a clock fixed to the stationary steering wheel column of an automobile while the gear for winding the clock moves with steering wheel; mere reversal of such movement, so theclock moves with wheel, was held to be an obvious expedient.). Thus, it would have been obvious to one skilled in the art at the time of invention to modify the heat dissipation of Gray by reversing the stator assembly 11 and the rotor 12 so that the rotor 12 is rotatably connected to the heat pipe 16 whereas the stator assembly 11 is fixed to the heat pipe 16 in order to meet specific manufacturability requirements, for example, without affecting operation of the module.

Conclusion

17. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner is on a flexible work schedule, but can normally be reached most weekdays between the hours of 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner
Art Unit 3753